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ABSTRACT

This report summarizes the findings of a study of the effects of home environment on child outcomes as influenced by the Infant Health and Development Program, an intervention aimed at improving the health and development of premature, low birth weight infants through parental education and support and enriched educational day care and health services for children. Participating in the longitudinal study were 985 low birth weight infants assessed from birth to age 3, with follow-up assessment conducted at ages 5 and 8. Among the major findings of the study are that the intervention made a bigger difference on IQ scores for children from lower quality home environments than for children from higher quality home environments when children were age 3, but not when they were 5 or 8 years old. The impact of the intervention on children's measured intelligence did not persist beyond age 3, regardless of the quality of the home environment. There was no evidence of a treatment effect on children's behavior problem scores at any assessment. Nor did the quality of the home environment interact with the treatment group status to affect the number of behavior problems reported by mothers. (KB)

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NCEDL Spotlights

No. 27 October 2000

Intervention & Home Environment

Following are excerpts from an article "Early Intervention: The Moderating Role of the Home Environment," In press at Applied Developmental Science. *The authors are Robert Bradley of the University of Arkansas at Little Rock, Margaret Burchinal at UNC-Chapel Hill & Patrick Casey at the University of Arkansas for Medical Sciences.*

Effects of Home Environment on IHDP Outcomes Studied

Summary of study

The Infant Health and Development Program (IHDP) is an intervention aimed at improving the health and development of premature, low birth-weight infants through a combination of education and support for parents plus enriched educational day care and health services for children.

A randomized clinical trial procedure was used at eight program sites to example the impact of IHDP on children's growth and development from birth to age 3.

Follow-up assessments were conducted at ages 5 and 8.

The effect of the program on children's intelligence at age 3 was greater for those children from low-quality home environments. However, the home environment was not a moderator of program impact on children's intelligence at the later assessment points, nor was it a moderator of program impact on children's behavior.

How our research was structured

A total of 985 low birth-weight infants were recruited between January 1985 and October 1985 at collection sites in Little Rock, AR; New York; Boston, Miami, FL.; Philadelphia; Dallas, TX; Seattle, WA; and New Haven, CT.

Infants in both the intervention and follow-up groups received basic pediatric services (including periodic medical, developmental, and family assessments from 40 weeks to 36 months of age. The intervention, lasting from time of hospital discharge to age 3, consisted of weekly home visits through age one and biweekly visits thereafter. General information about health and development was provided to the primary caregiver, along with family support. The home visitor also assisted the parents by implementing two specific curricula, one focused on learning activities tailored to the individual child and the second on helping parents manage self-identified programs.

Children in the intervention group also attended a child development center beginning at age one and ending at age 3. A coordinated education curriculum of learning games and activities was used for both the home visit component and the child center component.

Major Findings

- Intervention made a bigger difference on IQ scores for children from lower quality home environments than for children from higher quality home environments when children were 3 years old, but not when children were 5 or 8 years of age. Although there was a significant effect of the intervention on IQ for children from families with three-year HOME scores in the upper third, the middle third, and the lower third, the effects for the latter two groups were more pronounced than the effect on children with the highest HOME scores. These "moderator effects" cannot be interpreted in a completely straightforward way, given that the intervention had an impact on both the home environment and children's development, but the magnitude of the differences at different levels of the environment indicates a moderating effect.
- The impact of the intervention on children's measured intelligence did not persist beyond age 3, regardless of the quality of the home environment. Even children who benefited most from the intervention (those from the poorest quality home environment) showed no residual effects of the intervention.
- There was no evidence of a treatment effect on children's behavior problem scores at any assessment point. Neither did the quality of the home environ-ment interact with the treatment group status to affect the number of behavior problems reported by mothers.

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Discussion

Findings from this study, when coupled with findings presented by Bradley et al. (1994), suggest three things:

- Part of the effect of the IHDP intervention on children's health and development is mediated through its effect on the home environment.
- The impact of the intervention on children's IQ was greatest for children from home environments that did not provide a high level of stimulation and support for development.
- The impact of the intervention (including the degree to which it was moderated by the home environment) was limited to the first three years of life.

These results attest to the importance of looking at the role played by the home environment in interventions with high-risk children.

Adjusted Mean Scores on Intelligence Tests & Behavior Problems Measures

	AGE					
	3 years		5 years		8 years	
	Comp	Inter	Comp	Inter	Comp	Inter
IQ: Home tercile group						
Lowest (bottom 1/3)	76	87	83	84	83	83
Middle (middle 1/3)	83	93	91	90	92	92
Highest (top 1/3)	95	99	97	94	100	96
CBCL: Home tercile group						
Lowest (bottom 1/3)	52	50	37	35	35	33
Middle (middle 1/3)	49	44	34	33	32	32
Highest (top 1/3)	40	39	27	30	28	30

Note:
Comp = comparison group;
Inter = intervention group;
HOME = Home Observation for Measurement of the Environment Inventory;
CBCL = Child Behavior Checklist.

For More Information

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